



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/668,253	09/21/2000	Andreas Bechtolsheim	CISCP540	1376
26541	7590	05/18/2005	EXAMINER	
RITTER, LANG & KAPLAN P.O. BOX 2448 SARATOGA, CA 95070			STRANGE, AARON N	
			ART UNIT	PAPER NUMBER
			2153	

DATE MAILED: 05/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/668,253

Applicant(s)

BECHTOLSHEIM ET AL.

Examiner

Aaron Strange

Art Unit

2153

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-9, 12-21, 30-37, 40-45, 47-49, 51-56, 65-74, 80, 82-84 and 86-91 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2-9, 14-21, 30-34, 37, 40, 89 and 91 is/are allowed.
- 6) ☒ Claim(s) 12, 13, 41-45, 47-49, 51, 53-56, 65-74, 80, 82-84, 86-88 and 90 is/are rejected.
- 7) ☒ Claim(s) 35, 36, and 52 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☒ Interview Summary (PTO-413)
Paper No(s)/Mail Date. 05052005, 05112005.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. The proposed amendment filed 4/11/2005 has been entered. Claims 1,10,11, 22-29, 38, 39, 46, 50, 57-64, 75-79, 81, and 85 have been cancelled. Claims 2-9, 12-21, 30-37, 40-45, 47-49, 51-56, 65-74, 80, 82-84, and 86-91 are pending.

2. In view of the interview with Cindy S. Kaplan (Reg. No 40,043) on 5/11/2005 (summary attached), PROSECUTION IS HEREBY REOPENED. New grounds of rejection are set forth below.

Allowable Subject Matter

3. The indicated allowability of claim 46 (now claim 45) and 49, made in the Office action of 2/17/2005 is withdrawn in view of the newly discovered reference(s) to Edem et al. (US 5,559,796) and Williams (US 6,112,247). Rejections based on the newly cited reference(s) follow.

4. Claim 52 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. Claims 2-9,14-21,30-34,37,40, 89, and 91 are allowed.

Claim Objections

6. Claim 35 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. If claim 35 is cancelled, Applicant is reminded to amend claim 36, since it currently depends from claim 35.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 48, 53-56, 65-74, 80, 82, 83, and 90 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

9. Claim 48 recites the limitation "the port controller" in line 6. There is insufficient antecedent basis for this limitation in the claim. It is unclear if the port controller being referenced is the port controller defined in claim 45 or the port controller defined in claim 48. For the purpose of applying prior art, the claim has been interpreted as referring to the port controller which is part of the second network element, as defined in claim 48.

10. Claim 53 recites the limitation "said plurality of network elements" in lines 8-9. There is insufficient antecedent basis for this limitation in the claim. The Examiner

Art Unit: 2153

recommends that the claim be amended to, after "within a network" in line 1, add "comprising a plurality of network elements".

11. Claim 65 recites the limitation "said plurality of network elements" in lines 7-8.

There is insufficient antecedent basis for this limitation in the claim. The Examiner recommends that the claim be amended to, after "in an Ethernet system" in line 2, add "comprising a plurality of network elements".

12. With regard to claim 65, the limitation "the Ethernet frame" is unclear. It is unclear how Applicant intends for the "Ethernet frame" to differ from an "Ethernet packet".

Based on page 3, line 16 to page 4, line 3 of the specification, it appears that Applicant intends for the Ethernet frame to be the fields in an Ethernet packet excluding the preamble and start of frame field, and it has been interpreted as such for the purpose of applying prior art.

The Examiner recommends that the claim be amended to replace "means for modifying the preamble of the Ethernet packet to support network management while maintaining the Ethernet frame;" with "means for modifying the Ethernet packet by inserting a header in place of the preamble within the packet while maintaining the format of the Ethernet packet, said header configured to provide support for network management;".

Art Unit: 2153

13. Claims 80 and 83 also refer to "Ethernet frames". The Examiner recommends that the claims be amended to recite "Ethernet packets".

14. With regard to claims 82, and 83, the preamble of each claim recites "The method of claim 53", but claim 53 is a product claim. It is unclear if these claims are intended to depend from claim 53.

15. Claim 90 also refers to "Ethernet frames". The Examiner recommends that the claim be amended to replace "preserving the Ethernet frame structure" with "maintaining the format of the Ethernet packet".

16. All claims not individually rejected are rejected by virtue of their dependency from the above claims.

Claim Rejections - 35 USC § 101

17. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

18. Claims 53-56, 82, and 83 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

19. Claims 53-56 are not limited to tangible embodiments. In view of Applicant's disclosure, specification page 19, line 18 to 20, line 3, the medium is not limited to tangible embodiments, instead being defined as including both tangible embodiments (e.g., CD-ROM, floppy disk, hard drive) and intangible embodiments (e.g., carrier wave). As such, the claim is not limited to statutory subject matter and is therefore non-statutory. The Examiner recommends that the claim be amended to specifically recite "wherein said computer-readable storage medium is not a data signal embodied in a carrier wave".

20. Claims 82 and 83 are rejected by virtue of their dependency from claim 53.

Claim Rejections - 35 USC § 102

21. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

22. Claims 41-45, 47-49, 80, 84, 86-88, and 90 are rejected under 35 U.S.C. 102(b) as being anticipated by Edem et al. (US 5,559,796).

23. With regard to claim 41, Edem discloses a method for supporting management of a network, the method comprising: receiving a modified Ethernet packet at a network

element (Col 15, Lines 35-38), the modified packet comprising a header configured to provide support for network management (Col 14, Lines 16-45); replacing the header in the modified packet with a preamble within the packet to create an Ethernet packet (Col 15, Lines 50-53); and transmitting the Ethernet packet from the network element (Col 15, Lines 50-53); wherein the header is the same size as the preamble (the entire header is replaced) (Col 15, Lines 50-53).

24. With regard to claim 42, Edem further discloses that the network element (44a') is located at an egress boundary of the network (46a') (Fig 13).

25. With regard to claim 43, Edem further discloses that receiving a modified Ethernet packet comprises receiving the modified packet from a transit network element (Fig 13, 42a') located within the network (Node 1 receives packet from a source and modifies it) (Fig 13).

26. With regard to claim 44, Edem further discloses that the network element is in communication with an optical network (Col 11, Lines 32-34).

27. With regard to claims 45 and 49, Edem discloses an Ethernet network system for conveying network management information, the system having a network element comprising: a port controller operable to receive an Ethernet packet (packets output by Ethernet source) (Col 14, Lines 46-53), modify the Ethernet packet by inserting a

Art Unit: 2153

header in place of the preamble within the packet while maintaining the format of the Ethernet packet (Col 15, Lines 3-5), said header configured to provide support for network management (Col 14, Lines 16-45), the port controller comprising a CDL handler operable to insert the header into the packet (inherent since the header is inserted); and a network element controller (frame timing device) coupled to the port controller and operable to generate and consume network management information (Col 14, Line 53 to Col 15, Line 2).

Edem fails to specifically recite that the port controller contains an optical to electrical converter or an electrical to optical converter. However, these devices are inherent since Edem discloses that the various transmission mediums (46a', 46b', etc) may be "any number of media types" including fiber optic cable (optical) mediums. In order to communicate over a fiber optic cable, the port controller must have both an optical to electrical and electrical to optical converter, since computers use electrical connections internally. The electrical signal generated by the computer must be converted to an optical signal in order to be transmitted, and a received optical signal must be converted into an electrical signal in order to be processed by the computer.

28. With regard to claim 47, Edem further discloses a crossconnect (multiplexer) configured to receive the packet from the port controller and select an egress port controller (transmitter) to transmit the packet from the network element (packets are received by multiplexer and transmitted) (Fig 13, 50a' and Col 14, Lines 46-53).

Art Unit: 2153

29. With regard to claim 48, Edem further discloses a second network element positioned at an egress boundary of the network, the second network element comprising: a port controller operable to receive the modified packet (Col 15, Lines 35-38) and replace the header with the preamble (Col 15, Lines 50-53); and a network element controller coupled to the port controller and operable to generate and consume network management information (Col 15, Lines 45-54).

30. With regard to claim 80, Edem further discloses that the port controller and the network element are configured for receiving and sending Ethernet frames (Col 14, Lines 46-55 and Col 15, Lines 35-40).

31. With regard to claim 84, Edem further discloses that the network is a WAN (Col 1, Lines 1-4).

32. With regard to claim 86, Edem further discloses that transmitting the Ethernet packet comprises transmitting the Ethernet packet without a SONET frame (no SONET frame is transmitted) (Col 15, Lines 50-53).

33. With regard to claim 87, Edem further discloses that transmitting the Ethernet packet comprises transmitting the Ethernet packet without SONET overhead (Col 15, Lines 50-53).

Art Unit: 2153

34. With regard to claim 88, Edem further discloses that replacing the header comprises maintaining a minimum interpacket gap (Col 13, Lines 3-10).

35. With regard to claim 90, Edem further discloses that replacing the header in the modified packet comprises maintaining the Ethernet frame structure (Col 15, Lines 3-5).

Claim Rejections - 35 USC § 103

36. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

37. Claim 51 is rejected under 35 U.S.C. 103(a) as being unpatentable over Edem et al. (US 5,559,796) in view of Williams (6,112,247).

38. With regard to claim 51, while the system disclosed by Edem shows substantial features of the claimed invention (discussed above), it fails to disclose that the second network element is a downstream network element and further comprising a transit network element operable to receive the modified packet, modify the header, and forward the packet to the second network element.

However, transit network elements are old and well-known in the art as

components of a network that receive packets, modify headers as necessary, and forward the packet onward, as evidenced by Williams. Williams teaches modifying headers of a packet received by a transit element, prior to forwarding it to its ultimate destination (Col 5, Lines 24-44).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify packets received at transit elements in the network disclosed by Edem since it would have allowed the delay adjustments to be maintained between the source and the ultimate destination of the packet.

39. Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Edem et al. (US 5,559,796) in view of Official Notice.

40. With regard to claims 12 and 13, while the system disclosed by Edem shows substantial features of the claimed invention (discussed above), it fails to disclose that the header includes a cyclic redundancy check field to detect errors in the header.

The Examiner takes Official Notice that cyclic redundancy check (CRC) fields are old and well known in the art as a means to detect errors in network transmissions. When the CRC is appended to a header, and a bit changes in transmission, the CRC will no longer be correct, and the recipient can determine that an error has occurred. This would have been an advantageous addition to the system disclosed by Edem since it would have allowed detection of errors in the timing information stored in the header.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a CRC header as a means to verify whether an error has occurred during transmission of the modified Ethernet packet.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aaron Strange whose telephone number is 571-272-3959. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glen Burgess can be reached on 571-272-3949. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AS
5/12/2005


GLEN B. BURGESS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100